

Forklift Torque Converters

Torque Converter for Forklifts - A torque converter is actually a fluid coupling which is used to transfer rotating power from a prime mover, which is an internal combustion engine or as electrical motor, to a rotating driven load. The torque converter is same as a basic fluid coupling to take the place of a mechanized clutch. This allows the load to be separated from the main power source. A torque converter could offer the equivalent of a reduction gear by being able to multiply torque if there is a significant difference between output and input rotational speed.

The most common type of torque converter utilized in auto transmissions is the fluid coupling type. In the 1920s there was also the Constantinesco or also known as pendulum-based torque converter. There are other mechanical designs for always variable transmissions which can multiply torque. Like for example, the Variomatic is one kind that has a belt drive and expanding pulleys.

A fluid coupling is a 2 element drive which cannot multiply torque. A torque converter has an additional element that is the stator. This alters the drive's characteristics all through times of high slippage and generates an increase in torque output.

There are a minimum of three rotating parts within a torque converter: the turbine, which drives the load, the impeller, which is mechanically driven by the prime mover and the stator, which is between the turbine and the impeller so that it could change oil flow returning from the turbine to the impeller. Usually, the design of the torque converter dictates that the stator be prevented from rotating under whichever condition and this is where the term stator begins from. In point of fact, the stator is mounted on an overrunning clutch. This particular design prevents the stator from counter rotating with respect to the prime mover while still permitting forward rotation.

Modifications to the basic three element design have been integrated periodically. These changes have proven worthy especially in application where higher than normal torque multiplication is needed. Most commonly, these adjustments have taken the form of various stators and turbines. Each and every set has been designed to generate differing amounts of torque multiplication. Various instances include the Dynaflo which utilizes a five element converter so as to generate the wide range of torque multiplication required to propel a heavy vehicle.

Various car converters include a lock-up clutch so as to reduce heat and to enhance the cruising power and transmission effectiveness, though it is not strictly part of the torque converter design. The application of the clutch locks the turbine to the impeller. This causes all power transmission to be mechanical which eliminates losses related with fluid drive.